

428

✓ Electron-optical investigation of composite photocathodes.
 L. N. Rykova and Yu. M. Kuznetsov. *Zh. tekhn. fiz.* 1955, 31, 10, 1955. Cs-Sb, Cs-Bi, and Cs-O-Ag cathodes were investigated in tubes with movable anode (which could be removed for the introduction of an evaporator); the tubes had a fluorescent screen and electromagnetic focussing. The magnification was 50-100 times, the resolution 1.7-2.5 μ , the anode voltage 9-20 kv., the field strength at the cathode 15-30 kv./cm. The Cs-O-Ag cathodes were made both on evapd. Ag and on Ag plates. The cathodes were illuminated with ultraviolet and visible light of different wave lengths; their photoelec. sensitivity was 60 microamp./lumen for Sb-Cs, 16 microamp./lumen for Bi-Cs, and 20 microamp./lumen for Cs-O-Ag cathodes. The cathodes could also be examd. with an optical microscope of 40-300 times magnification. It could be shown that the distribution of sensitivity in Sb-Cs and Bi-Cs cathodes depends on the speed of evapd. of Sb and Bi and on the thickness, the slowest speed giving the best uniformity. Considerable nonuniformity was observed in Cs-O-Ag cathodes with Ag evapd. to 10-20 μ in thickness. The nonuniformity of these latter cathodes was more pronounced with long wave light, showing a difference in work function along the surface of the cathode. Additional evapd. of Ag made the surface more uniform in work function. Cathodes made on differently etched Ag plates were uniform. Cathodes made on different crystal faces of Ag had different work functions. (See separate in collection S. P. K. 10/24)

Bykovskaya, L. N.

Distr: 425d

The influence of electron bombardment on the photo-
electric emission of complex photocathodes. L. N. Byk-
hovskaya. *Bull. Acad. Sci. U.S.S.R., Phys. Ser.* 20: 619-
61 (1956) (English translation). -- See C.A. 51: 3281d
B. M. R.

4
1

1578 HDVSKHYA, L. M.

7 The influence of electron bombardment on the photoelectric emission of complex photocathodes. I. N. Bykhovskaya. *Izvest. Akad. Nauk S.S.S.R.*, No. 12, 201052-64(1958).--Photoelec. and secondary emission of Cs-O-Ag and Sb-Cs cathodes before and after bombardment with 100-1300-v. electrons was investigated by measuring photocurrents and by examining the electron optical image of the photocathode in a specially designed emission microscope with a magnification of 5 times and a resolution of 4-6 μ . The electron beam of secondary emission was focussed on the surface of the cathode. The sensitivity of semitransparent Ag-O-Ag cathodes with 10% transparency was 7-8 microamp./lumen. After bombardment the sensitivity of these cathodes was increased by bombardment up to 30 times in the long wave region (600-700 nm). This increase in emission decays in a few hrs. to the original value. Long bombardment at high c.d. decreases sensitivity. The Cs-Sb cathodes were not affected by electron bombardment. Other measurements were made in special sealed off tubes with 1 or 2 photocathodes (the 2nd photocathode was the source of electron-1). The sensitivity of semitransparent Cs-O-Ag cathodes in these devices was 14-24 microamp./lumen. Illumination by blue light after bombardment reestablished the original conditions in a few sec. The increase is proportional to the energy charge falling on the cathode up to a saturation value of $Q = 1.65 \times 10^{-11}$ coulomb/cm² in thick cathodes and $Q = 0.84 \times 10^{-11}$ amp.-sec./sq. cm. in semitransparent cathodes. Electron bombardment makes the long wave side of the spectral response shift to the right. It was shown that the growth of emission is tied to the presence of Cs₂O on the surface, the increase being larger in cathodes poisoned by O. There is no increase in cathodes with initial sensitivities >20 microamp./lumen. S. Fuksver

SOV/120-58-2-12/37

AUTHOR: Bykhovskaya, L. N.

TITLE: A 20-30 Kilovolt Ion Gun (Ionnaya pushka na 20-30 kilovol't)

PERIODICAL: Pribery i Tekhnika Eksperimenta, 1958, Nr 2, pp 49-51
(USSR)

ABSTRACT: In recent years ion guns have been used in electron-optical devices which produce 35 kev ions. These guns find an application in electron microscopy. The device described in the present paper has been developed in collaboration with P. V. Zaytsev. The ions are produced by a high voltage discharge. The ion gun (Fig.1) consists of a discharge chamber and a high vacuum chamber which are separated by a diaphragm in the cathode. The ion beam passes through this diaphragm. In the discharge chamber the anode 2 and a cylindrical cathode 3 made from stainless steel are mounted on a porcelain insulator 1. The aperture in the anode diaphragm is 0.30 mm in diameter and the thickness of the electrode is 1.5 mm. The anode diaphragm is followed by a shaped aperture in the cathode 3. The latter aperture should be sufficiently small to ensure a pressure of about 10^{-4} mm Hg in the high vacuum chamber while the pressure in the discharge chamber is 10^{-1} .

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SOV/120-58-2-12/37

A. 20-30 Kilovolt Ion Gun.

At the same time the ion beam passing through the aperture in the cathode should be not less than 20-15 μ amp. The distance between the anode and the cathode is 3 mm and ensures stable conditions at potential differences of the order of 20 to 30 kv. A high potential is applied to the anode while the cathode and the body of the gun are earthed. Ions formed within the cavity in the anode are accelerated towards the cathode by the electrical field. Since the inter-electrode distance is small, a strong electric field appears at the cathode and penetrates into the anode cavity due to the relatively large aperture of the anode diaphragm. The electrostatic lens formed by the cathode and the anode diaphragm accelerates and focusses the ion beam and as a result the output of ions through the cathode diaphragm increases. The gun is provided with suitable gas inlet and is attached to a chamber which contains a fluorescent screen which indicates the presence of accelerated ions produced by the gun. The following persons collaborated: N. A. Kop'yev, T. V. Sokolov and L. A. Titov. There are 3 figures,

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SOV/120-58-2-12/37

A 20-30 Kilovolt Ion Gun.

and 6 references, of which 1 is French, 1 English and the rest German.

SUBMITTED: May 18, 1957.

Card 3/3

1. Electron microscopes--Equipment
2. Ion beams--Focusing
3. Ions--Production

SOV/109-4-7-8/25

AUTHORS: Bykhovskaya, L.N. and Der-Shvarts, G.V. Electronic
TITLE: Some Electron-optical Characteristics of Single/Filter-
lenses
PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 7,
pp 1145 - 1152 + 2 plates (USSR)
ABSTRACT: The picture in an electron microscope is produced by the
electrons which are elastically scattered in an object;
the inelastically scattered electrons which lose a fraction
of their velocity during the interaction with the object
form a background which reduces the contrast of the
picture and the resolution of the system. It is therefore
to be expected that the elimination of the inelastically
scattered electrons from the electron group which forms
the picture will lead to an improvement in the resolution
and an increase in the contrast (H. Börsch - Ref 2 and
O. Rang - Ref 3). This can be done by using special
electrostatic filter-lenses. The work described aimed
at the investigation of such simple filter-lenses. In
particular, the characteristics of the filters were
studied as a function of their geometrical dimensions.

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SOV/109-4-7-8/25
Some Electron-optical Characteristics of Single Filter-lenses

The investigated lenses were used as the projectors in a magnetic-type microscope. The experiments were carried out on a special simple lens whose electrodes were axially displaced (Figure 1). The lens consisted of three electrodes. The upper electrode had a demountable diaphragm, having a diameter of the aperture of 0.2 to 0.1 mm and could be displaced during the operation. The supply system of the microscope was as shown in Figure 2. The potential difference between the cathode of the microscope and the middle electrode of the filter-lens was obtained from a dry battery by means of a potentiometer; the voltage at this electrode was about 55 to 50 kV. The experimental results are shown in Figures 3 and 4. The dependence of the transmission coefficient and the magnification of the filter-lens on the ratio $k = d/b$ is given in Figure 3. The lens had the following parameters: $m = 1$ mm; $n = 4$ mm; $h = 31$ mm and the potential of the cathode $U_K = 50$ kV (Figure 1). The dependence of the parameters of the filter on the spacing a

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Some Electron-optical Characteristics of Single Filter-lenses ^{SOV/109-4-7-8/25}

between the upper and the middle electrodes is illustrated in Figure 4; the lens had $d = 2.5$ mm and $b = 1$ mm. The effect of the filter-lens on the pictures obtained with a microscope is illustrated in the photographs of Figures 5-8. The problem of determining the resolution of filter-lenses can be studied theoretically. For this purpose, the lens can be represented by the model shown in Figure 9. It is now necessary to solve the Laplace equation (Eq 1). The solution of this is sought under the following assumptions:

- 1) the potential in the space between the electrodes decreases linearly, and
- 2) the apertures in the outer electrodes are infinitely long.

The solutions of Eq (1) for the three regions shown in Figure 9 can be written as Eqs (2), (3) and (4), where φ_n are the roots of $J_0(x) = 0$, $J_n(x)$ is the Bessel

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SOV/109-4-7-8/25
Some Electron-optical Characteristics of Single Filter-lenses

function of the first kind of the order n . The electron trajectories can be determined from Eq (5), where V is the acceleration potential and Φ is the potential of the lens. The effect of the extra-axial aberrations can be determined by integrating the equation system given by Eqs (7) (G.V. Der-Shvarts - Ref 13). On the basis of the experiments and the theory (which is sometimes at variance with the experiments) it was found that the absolute value of the transmission of the lens for $h = \text{const}$ and $k = d/b = \text{variable}$ has a minimum. It was found that the aperture of the upper electrode (Figure 1) limits the field of vision of the lens. In fact, the field is comparatively small and makes it difficult to employ the filter-lenses in practice. It is possible to produce a filter-lens having a transmission value of 20 V at a potential of $U_{K_0} = 50 \text{ kV}$ which permits obtaining a resolution of about $70 \text{ \AA}$ when the object or magnification is 150. The calculations show that the filters produce large chromatic aberrations and can lead

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SOV/109-4-7-8/25

Some Electron-optical Characteristics of Single Filter-lenses

to a decrease in the resolution of the microscope if the magnification of the first optical stage is small. The chromatic aberrations increase considerably when the optical system is misaligned. The authors express their gratitude to Yu.M. Kushnir for his interest in this work. There are 9 figures and 13 references, of which 2 are English, 8 German and 3 Soviet.

SUBMITTED: March 17, 1958

Card 5/5

L 11065-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD
 ACC NR: AT6001391 SOURCE CODE: UR/3180/64/009/000/0106/0108

AUTHOR: Bykhovskaya, L. N.; Libin, I. Sh.; Charnaya, F. A.

33
 B+1

ORG: none

TITLE: Nitrogen flash lamps

SOURCE: AN SSSR. Komissiya po nauchnoy fotografii i kinematografii. Uspekhi nauchnoy fotografii, v. 9, 1964. Vysokoskorostnaya fotografiya i kinematografiya (High-speed photography and cinematography), 106-108

TOPIC TAGS: flash lamp, nitrogen, optic brightness

ABSTRACT: Sealed flash lamps filled with nitrogen at pressures up to about 10 atm were prepared. The maximum instantaneous brightness was measured with a UIF-1 VNISI pulse photometer. Saturation of maximum brightness was found to occur at nitrogen pressures above 6 atm at $U = 12$ kv. By raising the gas pressure in the lamp, one can substantially decrease the voltage at which a given peak value of brightness is attained. Up to 15 atm, the maximum brightness of lamps operating under saturation conditions is practically independent of the pressure; an increase in pressure merely prolongs the radiation. The effects of pressure, distance between electrodes and inductance of the discharge circuit on the voltage at which brightness saturation is achieved are the same as in inert gases. The absolute value of the brightness of ni-

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L 11065-66

ACC NR: AT6001391

trogen lamps under saturation conditions is more than double that of xenon lamps since the radiation pulse is much shorter. In the entire spectral range where saturation is attained, the discharge channel as a radiator is very close to a black body when the brightness reaches its maximum value. Orig. art. has: 2 figures. 0

SUB CODE: 13,20 SUBM DATE: 00/ ORIG REF: 007/ OTH REF: 002

Card 2/2

ACCESSION NR: AP4020945

S/0051/64/016/002/0365/0367

AUTHOR: Charnaya, F.A.; Bykhovskaya, L.N.

TITLE: Effect of the type of gas and the discharge conditions on the peak luminous intensity of high pressure flash tubes

SOURCE: Optika i spektroskopiya, v.16, no.2, 1984, 365-367

TOPIC TAGS: flash tube, discharge tube, flash peak intensity, flash tube intensity, flash tube brightness, high pressure discharge tube, inert gas, argon, xenon, krypton, nitrogen, flash intensity saturation

ABSTRACT: For efficient use of flash tubes for photography and other purposes it is essential to know not only their luminous characteristics but also the time characteristics of the emission. It has been found that one of the distinctive features of pulse discharges in inert gases at high pressures (in a volume not effectively bounded by the tube envelope) is that the shapes of the brightness B and luminous intensity I pulses differ. Measurements for all the inert gases as well as for nitrogen and oxygen have shown that regardless of the discharge conditions the time t_1 from initiation of the discharge to the peak value of B is shorter than the time

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ACC. NR. AP4020945

t_2 to the peak value of the luminous intensity I . During the interval t_2-t_1 the plasma temperature and diameter of the luminous channel may vary differently in different gases. Hence the ratios of B_{peak} for different gas-fillings may differ from the corresponding ratios of I_{peak} . In the present work, in addition to the time variation of B and I in some gases, there were determined the dependences of I_{peak} on the flash (discharge) energy W for tubes filled with different gases to different pressures and with different electrode gaps d . The results are shown in Figs.1 and 2 of the Enclosure. It was also found that in all cases there is a certain rather high capacitor voltage at which virtual saturation of I_{peak} is attained (i.e., further increase of the capacitor voltage brings no further increase of the peak intensity). This "saturation" potential decreases with increase of the atomic number and pressure of the gas with decrease of the interelectrode distance d . In view of their characteristics (high peak intensity and short emission period) nitrogen filled flash tubes would appear to be good sources of illumination for ultra highspeed photography. "In conclusion, the authors express their gratitude to I.M.Gurevich for valuable suggestions in discussing the results of the work." Orig.art.has: 3 figures.

Card

2/13

ACC.NR: AP4020945

ASSOCIATION: none

SUBMITTED: 17Jun63

SUB CODE: PH,SD

DATE ACQ: 02Apr64

NR REF SOV: 006

ENCL: 02

OTHER: 001

Card 3/3

BYKHOVSKAYA, L.N., kand. tekhn. nauk; LIBIN, I.Sh., kand. tekhn. nauk;
CHARNAYA, F.A.

Nitrogen impulse lamps. Svetotekhnika 9 no.10:21-22
0 '63. (MIRA 16:11)

1. Vsesoyuznyy svetotekhnicheskiy institut.

CHARNAYA, F.A.; BYKHOVSKAYA, L.N.

Effect of the kind of gas and electric properties on the amplitude
light intensity of high-pressure pulsed lamps. Opt. i spektr. 16
no.2:365-367 F '64. (MIRA 17:4)

L 5459-66 EWA(k)/FBD/EWT(1)/EWT(m)/EPF(c)/SEC(k)-2/T/EWP(t)/EWP(k)/EWP(b)/
EWA(m)-2/EWA(H) SCTB/IJP(c) WG/JD

ACC NR: AP5025098

SOURCE CODE: UR/0368/65/003/003/0285/0289

AUTHORS: ⁴⁴Bykhovskaya, L. N.; ⁴⁴Gurevich, I. M.; ⁴⁴Yelina, N. G.; ⁴⁴Kononova, S. V.;
⁴⁴Neyman, I. S.; ⁴⁴Charnaya, F. A.

ORG: ⁴⁴All-Union Lumo-Technical Research Institute, Moscow⁴⁴ (Vsesoyuznyy nauchno-
issledovatel'skiy svetotekhnicheskii institut)

TITLE: Impulse lamps VNISI for lasers

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no. 3, 1965, 285-289

TOPIC TAGS: ⁴⁴xenon lamp, impulse lamp, optical pumping, optical quanta generator

ABSTRACT: In order to develop reliable ⁴⁴lasers⁴⁴ for use as optical pumps in various solid state devices, the performance of 8 different Xe lamps was studied. Lamps having straight and cylindrical spirals and flash energy output between 200 to 2000 joules were studied. The spectral distribution, light intensity, and electrical resistance of the lamps were determined. The results are presented in tables and graphs (see Fig. 1). It is concluded that the observed saturation of radiant energy F_{λ} in the region of 900 Å for the lamp IP-400 (400 mm Hg Xe) is

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UDC: 621.385.8

I. 5459-66

ACC NR: AP5025098

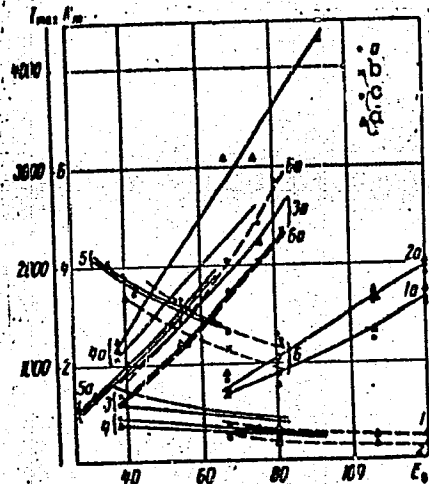


Fig. 1. Dependence of current amplitude I_{max} (a) curves 1a - 6a and resistance of impulse lamps R_m (ohm) at the instant of I_{max} - curves 1 - 6 on the initial potential gradient E_0 (v/cm). 1 - 1a - IP-200; 2, 2a - IP-400; 3, 3a - IP-3000; 4, 4a - IP-5000; 5, 5a - ISTS-10000; 6, 6a - ISP-10000; a - at $C = 20\mu$ microfarad; b - 530 mf; c - 1160 mf; d - 1475 mf.

due to line plasma absorption. Orig. art. has: 3 tables and 4 graphs.

SUB CODE: EE, OP, EC / SUBM DATE: 00/

ORIG REF: 010/

OTH REF: 003

Card 2/2 *md*

GANAGO, F.M., kand. med. nauk; Prinimali uchastiyey: ALEKSEYEVA, R.M.,
vrach (Sverdlovsk); AYZENSHTeyN, B.S., vrach (Sverdlovsk);
BABINOVA, G.D., vrach (Sverdlovsk); BOROVITSKAYA, L.M., vrach
(Sverdlovsk); VARGANOVA, M.V., vrach (Sverdlovsk); KOPYLOVA,
K.P., vrach (Sverdlovsk); SOKOLOVA, O.V., vrach (Sverdlovsk);
SHEVTSOVA, R.P., vrach (Sverdlovsk); SHELOMOVA, I.M., vrach
(Sverdlovsk); BYKHOVSKAYA, M.A., vrach (Revda); BELYAYEVA,
N.Ya., vrach (Magnitogorsk); KRUGLOVA, N.A., vrach (Kurgan);
NIKIFOROVA, F.N., vrach (Kurgan); MITINA, O.A., vrach (Asbest);
PORKHOVNIKOVA, E.D., vrach (Ufa); PONOMAREVA, N.I., vrach
(Orenburg); RASSOSHNYKH, G.F., vrach (Perm'); SAZANOVA, V.V.,
vrach (Izhevsk)

Chemoprophylaxis of tuberculosis in children and adolescents
in foci of tuberculous infection. Probl. tub. 42 no.1:6-11
'64. (MIRA 17:8)

1. Detskoye otdeleniye (zav. F.M. Ganago) Sverdlovskogo insti-
tuta tuberkuleza (dir. - prof. I.A. Shaklein) (for Ganago).

БЫКHOУC KAY A, M. B

86576

3/190/60/002/004/017/020
2004/2056

15.8114 2409,22 00,1571

APPENDIX 3

Kolenskoy, G. S., Davydova, S. L., Yermolayeva, T. I.,
Shilova, M. D., Dybenovskaya, M. B.

9876543210

Carbochalcin Polymers and Copolymers. XIII. The
Copolymerization of Gallicyl-derivatives of Germanium, Tin,
and Silicon with Styrene and Methylmethacrylate in the
Presence of Benzoylperoxide

PHYSIOLOGICAL:

Tsokomolekulynyye soedineniya, 1960, Vol. 2, No. 4, pp. 567-571

EXPT. It was the aim of the present paper to investigate the influence exerted by the contents in dialkylphenylammonium, dialkylallyl-, trialkyl-, dialkylvinylpyridinium, in the initial structures with respect to the copolymerization of the polymers with styrene and methylmethacrylate. Copolymerization took place at 60°C in benzene. The reaction lasted 2 h and the concentration of the benzoylperoxide was 2% by weight, referred to the mass of the monomers. The copolymers with methylmethacrylate were found

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2

to be insoluble in the small solvents. The compounds obtained were analyzed (Tables I, 2), and their thermomechanical properties were investigated (Figs. 1, 2). In the copolymer with styrene, also the viscosity in benzene and the molecular weight was determined. In determining content in elemental organic substances in the initial mixture of monomers, the copolymer with styrene was found to contain 22% explained by the low activity of the elements of organic compounds. The copolymers with styrene had a lower softening temperature than polystyrene. The copolymers with methylmethacrylate showed no astatic structure in the course of the thermomechanical investigation. That they are nevertheless insoluble, is explained by the very weak cross linking, which produces no effect upon the thermomechanical properties. The authors thank Dr. L. B. Matyjaszewski and G. K. Smolinsky for determining the molecular weights and the thermomechanical properties. They send our thanks to V. V. Korotkin and G. (Mats. 1-3) and A. to Borisov (Ref. 4). There are 2 figures.

cont 2/3

2 cables, and 4 Soviet references.

AS9001A:2008

Institut elementoorganicheskikh soedineniy AN SSSR
(Institute of Elemental Organic Compounds of the AS USSR)

SUBMITTED: January 15, 1960

CUDA 5/5

ARONOV, A.P., starshiy inzh.-normirovshchik. Prinimali uchastiye:
BORODULIN, Ya.P., inzh.-normirovshchik; FROKISTOVA, Z.G.,
inzh.-normirovshchik. BYKHOVSKAYA, M.B., obshchiy red.;
ZLOTNIK, E.A., red.; LOKHMANOVA, M.P., tekhn.red.

[Time standards in the furniture industry] Normativy vremeni
na raboty po izgotovleniyu mebeli. Moskva, 1958. 202 p.
(MIRA 12:7)

(Furniture industry)

BYKHOVSKAYA, P.

Workers of the State Electrotechnical Plant eat here. Obshchestv.
pit. no.1:25-28 '57. (MIRA 11:4)
(Riga--Employee lunchrooms, cafeterias, etc.)

BYKHOVSKAYA, Polina Markovna; VOL'F, Lazar' Grigor'yevich; YUR'YAN, E.,
red.; MIRONOV, A., tekhn.red.

[New ideas in retail trade; from the practice of Riga stores]
Novye formy trgovli; iz opyta raboty rizhskikh magazinov.
Riga, Letviiskoe gos.isd-vo, 1959. 81 p.

(MIRA 14:1)

(Riga--Retail trade)

ALATORTSEV, S.A., LOMAKIN, S.M., redaktor; BYKHOVSKAYA, S.N., redaktor.

[Mining applications of electrical engineering] Gornaya elektro-
tekhnika. Izd. 2-e. Moskva, Ugletekhnizdat, 1954. 366 p. (MLRA 7:7)
(Electricity in mining) (Mining engineering)

ARSENT'YEV, Aleksandr Ivanovich; ~~BYKHOVSKAYA~~, S.N., otv. red.; LO-
MILINA, L.N., tekhn. red.; ~~BOLDYREVA~~, Z.A., tekhn. red.

[Determining the productivity and boundaries of strip
mines] Opređenje proizvoditel'nosti i granits kar'erov.
Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po gornomu delu,
1961. 242 p. (MIRA 14:5)

(Strip mining)

ORLOV, Yevgeniy Ivanovich. Prinimala uchastiye EYKHOVSKAYA, S.N.,
gorn. inzh.; DIDKOVSKIY, D.Z., otv. red.; KIT, I.K., red.
izd-va; LOMILINA, L.N., tekhn. red.

[Surface mining in coal pits] Otkrytye gornye raboty na ugol'-
nykh kar'erakh. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po
gornomu delu, 1961. 224 p. (MIRA 15:2)
(Coal mines and mining)

KHOKHRYAKOV, Vladimir Stepanovich, dots., kand. tekhn. nauk;
SHILIN, A.N., kand. tekhn. nauk, retsenzent; TRET'YAKOV,
K.M., inzh., retsenzent; BYKHOVSKAYA, S.N., red.izd-va;
LOMILINA, L.N., tekhn. red.

[Planning and organizing truck transportation in open-pit
mines]Proektirovanie i organizatsiia raboty kar'ernogo av-
totransporta. Moskva, Gosgortekhzdat, 1963. 165 p.

(MIRA 16:4)

(Mine haulage)

BYKHOVSKAYA, V., starshiy khudozhnik; REZNIKOV, R., starshiy konstruktor

Made with "lavsan". Mest.prom.i khud.promys. 3 no.7:39
Jl '62. (MIRA 15:8)

1. TSentral'naya opytno-tekhnicheskaya shveynaya laboratoriya.
(Knit goods industry) (Textile fibers, Synthetic)

BYKHOVSKAYA, V.M.

Speech disorders in acute poliomyelitis in children. Vop.psikh.i
nevr. no.7:61-65 '61. (MIRA 15:8)

1. Iz kliniki nervnykh bolezney (zav. kafedroy - prof. Ye.F.
Davidenkova) Leningradskogo pediatricheskogo meditsinskogo instituta
(dir. instituta - prof. N.T.Shutova, glavnyy vrach - M.Kh.
Maksutova).

(POLIOMYELITIS) (SPEECH, DISORDERS OF)

BYKHOVSKAYA, Ye.M.

BYKHOVSKAYA, Ye.M.

Organization of the operation of a pharmacy. Apt.delo 6 no.3:6-8
My-Je '57. (MIRA 11:1)

1. Upravlyayushchaya aptekoy No.10 Moskvy.
(DRUGSTORES)

БУКHOVCKAYA, Ye. V.

11 июня
(с 18 до 22 часов)

Г. И. Рогов
Возбуждение микроволн электронными пучками с перемещением носителей заряда в транзисторах.

С. Т. Афанасьев
Об управлении частотой триодного генератора.

А. И. Чесноков
Получение шумов с помощью электронных ламп.

И. С. Арзамасов
Метод получения микроволн: анализ-синтез, структура, выделение фазы и использование микроволновых ламп.

12 июня
(с 10 до 16 часов)

В. В. Богданов,
В. В. Кислов,
З. С. Черныш
Выявление микроволновых пучков с помощью...

Г. А. Лейб
Температурный детектор СВЧ излучения.

А. И. Бугаев,
В. В. Золотин,
С. С. Макашова
Взаимосвязь умножителей частоты на релактронных электронных пучках.

А. М. Баранов,
В. В. Богданов,
И. В. Кислов,
Д. В. Зорин
Электронные пучковые лампы и их свойства: влияние температуры на параметры.

А. СЕКЦИЯ РАДИОИЗМЕРЕНИЙ
Руководитель Г. А. Бугаев

9 июня
(с 10 до 16 часов)

А. Г. Савин
О параметрических процессах стабилизации частоты генераторов для СВЧ частоты.

report submitted for the Centennial Meeting of the Scientific Technological Society of
Radio Engineering and Electrical Communications in A. S. Popov (VSEK), Moscow,
8-12 June, 1959

L 1972-66

ACCESSION NR: AT5017379

UR/0000/64/000/000/0025/0030

40
S+1

AUTHOR: Kharchenko, A. M. (Moscow); Bykhovskaya, Ye. V. (Moscow)

TITLE: Electron contact tube

SOURCE: Konferentsiya po avtomaticheskomu kontrolyu, i metodam elektricheskikh izmereniy, 3d, Novosibirsk, 1961. Avtomaticheskii kontrol' i metody elektricheskikh izmereniy; trudy konferentsii, t. 2: Tsifrovyye izmeritel'nyye pribory. Elektricheskiye izmereniya neelektricheskikh velichin. Ustroystva avtomaticheskogo kontrolya i upravleniya v promyshlennosti (Automatic control and electrical measuring techniques; transactions of the conference, v. 2: Digital measuring instruments. Electrical measurements of nonelectrical quantities. Devices for automatic control and regulation in industry). Novosibirsk, Redizdat Sib. otd. AN SSSR, 1964, 25-30

TOPIC TAGS: contact tube, switching tube

ABSTRACT: The development is reported of an electron contact tube which closes the circuit by means of a secondary-electron beam generated between an

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L 1972-66

ACCESSION NR: AT5017379

emitter and a "suction" electrode. The emitter is excited by a primary-electron beam which can be either stopped or deflected. A single-contact tube, whose construction resembles a conventional pentode, has a turn-on resistance of 2.5 kohms at 5—6 ma and a turn-off resistance of 10^{10} ohms at a leakage current of 0.04 μ a; its cutoff voltage is -15—20 v. A disk-beam tube may have a turn-on resistance of 1.25—1.5 kohms at 20—25 ma. A 6-contact tube with a turn-on resistance of 5—7 kohms is switched by a control voltage of 30—40 v; the corresponding values for a 10-contact tube are: 10 kohms and 20—25 v. Possible applications of the above tubes are briefly discussed. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 11Nov64

ENCL: 00

SUB CODE: EC, IE

NO REF SOV: 001

OTHER: 002

Card ^{1/2} 2/2

9.4/20

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S/109/60/005/05/016/021

E140/E435

AUTHORS: Bykhovskaya, Ye.V., Kharchenko, A.M., Yelinson, M.I.
and Zernov, D.V.

TITLE: Electron-Beam Switching Tubes^b

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 5,
pp 849-857 (USSR)

ABSTRACT: The theory of beam switching tubes is discussed and then certain types of single-contact and multi-contact tubes and their basic parameters are described. The single-contact tubes have low internal resistance in the conducting stage 1.5 to 2.5 k Ω and substantial operating currents up to 20 mA with high resistance (10⁴ M Ω) in the open state. The multi-contact tubes have 5 to 10 contacts with resistances of 5 to 10 k Ω with operating currents up to 2 mA. High-voltage tubes permitting the switching of signals at potentials higher than 1 kV have also been developed. There are 15 figures and 3 references, 2 of which are German and 1 English. X

SUBMITTED: February 7, 1959

Card 1/1

BYKHOVSKAYA, Ye.Ye., kandidat meditsinskikh nauk (Leningrad)

Treatment of patients with toxic goiter in pregnancy. Probl.endokr.
i gorm. 2 no.2:38-43 Mr-Apr '56. (MLRA 9:10)

1. Iz laboratorii vozrastenoy fiziologii i patologii cheloveka
Instituta fiziologii imeni I.P.Pavlova (dir. - akad. K.M.Bykov)
Akademii nauk SSSR i fakul'tetskoy terapevticheskoy kliniki I Lenin-
gradskogo meditsinskogo instituta imeni akad. I.P.Pavlova (dir. A.I.
Ivanov)

(HYPERTHYROIDISM, in pregn.
ther.)

(PREGNANCY, compl.
hyperthyroidism, ther.)

ДВУХСКОМ-ПАТОЛОГИЯ. I. II.

1936. Fauna endoparazitov ryb. r. obsh. tr. kirsizaskoy konch. eksped., t. III,
v. 1, str. 284-287.

BYKHOVSKAYA-PAVLOVSKAYA, I. YE.

1940. Vliyaniye vozrasta na izmeneniye parazitofauny u okunya. parazitol.
sb. zin AN, VIII.

BYKHOVSKAYA,- PAVLOVSKAYA, I. Ye.

"Acanthocephala of Birds in Baradinst Lake."

SO: PARAZITOL. SBORNIK, Vol X, pp 245-57, 1948, Unclassified.

BYKHOVSKAYA-PAVLOVSKAYS, I. Ye.

"Parasitofauna of Perch (*Perca fluviatilis* L.) and the Effect of Some Ecological Factors on Their Variations."

Iz. Ak. Nauk SSSR, Ser. Biol. 3, 1949. pp 316-39.

BYKHOVSKAYA-PAVLOVSKAYA, I. Ye.

"Variability of Morphological Indicia and its Significance in the Systematics of the Genes Cy Clocoelidae (Trematodes)."

S0: Parazitol. Sbornik, Vol, XI, 1949, pp 9-60, Unclassified.

BYKHOVSKAYA-PAVLOVSKAYA, I. Ye.

"Variability of Morphological Symptoms and Its Role in the Classification of Trematoda
Genus Leucochloridium Carus, 1835," Paraz. sbor., No.13, 1951

BYKHOVSKAYA-PAVLOVSKAYA, I. Ye.

Birds trematodes in western Siberia and their dynamics. Doklady
Akad. nauk SSSR 84 no. 3:649-651 21 May 1952, (GLML 22:3)

1. Presented by Academician Ye. N. Pavlovskiy 21 March 1952. 2.
Zoological Institute of the Academy of Sciences USSR.

BYKHOVSKAYA-PAVLOVSKAYA, I. Y.

K faune trematod ptits leningradskoy oblasti, "Works on Helminthology" on the 75th Birthday of K. I. Skryabin, Izdat. Akad. Nauk. SSSR, Moskva, 1953, page 85
Parasitology Section, Zoology Inst., AS USSR

BELOPOL'SKAYA, M.M.; BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.

New parasite *Proacetabulorchis dogieli*, nov. sp. (family Micro-coeliidae) from birds' livers. Trudy Zool.inst. 13:160-162 '53.
(MIRA 7:5)

(Parasites--Birds) (Trematoda)

BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.; ZHUKOV, Ye.V.

~~Systematics of genera Apharyngostrigea Ciurea, 1927 and Parastrigea~~
Sizdat, 1928 (Trematoda, Strigeidae). Trudy Zool.inst. 13:163-170 '53.
(MLRA 7:5)

(Trematoda)

BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.

Trematodes parasitizing birds of Western Siberia and their dynamics.
(MLRA 7:5)

Paraz.sbor. 15:5-116 '53.

1. Zoologicheskii institut Akademii nauk SSSR.
(Siberia, Western--Trematoda) (Trematoda--Siberia, Western)
(Parasites--Birds)

BYKHOVSKAYA - PAVLOVSKAYA, I. E.

USSR/ Biology-Zoology

Card : 1/1

Authors : Pavlovskiy, E. N., Academician., and Bykhovskaya-Pavlovskaya, I. E.

Title : The 14-th International Zoological Congress in Copenhagen, Denmark

Periodical : Priroda, 6, 67 - 73, June 1954

Abstract : Notes and impressions of the Soviet delegation to the 14-th International Zoological Congress held in August 1953 in Copenhagen, Denmark. Illustration.

Institution :

Submitted :

BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.

Bird trematodes of Tajikistan. Trudy Zool.inst. 21:125-151 '55.
(MIRA 9:5)

(Tajikistan--Trematoda) (Parasites--Birds)

Name: BYKHOVSKAYA, Irina Yevgen'yevna

Dissertation: Trematoda of birds in the USSR (ecological and geographical survey)

Degree: Doc Biol Sci

Affiliation: Zoology Inst, Acad Sci USSR

Defense Date, Place: 20 Feb 56, Council of Leningrad Order of Lenin State U imeni Zhdanov

Certification Date: 26 May 56

Source: BMVO 4/57

@
Leningrad
RSFSR

PANIEWSKA-BYCHOWSKA, Irena

Ecologicoparasitological research in the Soviet Union, with special regard to flukes of migratory birds. Wiadomosci parazyt., Warsz. 3 no.2-3:251-259 1957.

1. Z Instytutu Zoologicznego Akademii Nauk ZSRR w Leningradzie.

(TREMATODE INFECTIONS, epidemiol.
in migratory birds in USSR (Pol))

(BIRDS, dis.
trematode infect. in migratory birds in USSR (Pol))

~~BYKHOVSKAYA, PAVLOVSKAYA, I. I.~~

Specificity in trematodes [with summary in French]. Trudy Len.
ob-va est. 73 no. 4:171-177 '57. (MIRA 11:6)

1. Otdel parazitologii Zoologicheskogo instituta AN SSSR.
(Trematoda)

BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.; GINETSKAYA, T.A.; RYZHIKOV, K.M.;
KHOTENOVSKIY, I.A.

Systematic position, morphology and development of the little-known
trematode *Distoma arenula* Creplin, 1825 *Laterotrema arenula*
(Crepl., 1825) Dollfus, 1956 [with summary in French]. Paraz. sbor.
18:321-330 '58. (MIRA 12:3)

1. Zoologicheskiy institut AN SSSR, Gel'mintologicheskaya laboratoriya
AN SSSR i Leningradskiy gosudarstvennyy universitet.
(Trematoda)

BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.; RYZHIKOV, K.M.

Schistosomatides (Schistosomatidae Looss, 1899) infesting birds
of the order Anseriformes in Yakutia [with summary in French]. Paras.
sbor. 18:283-294 '58. (MIRA 12:3)

1. Zoologicheskiy institut AN SSSR i Gel'mintologicheskaya laboratoriya
AN SSSR.

(Yautia—Tremateda) (Parasites—Water birds)

BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.

Some characteristics of the geographical distribution of trematodes
parasitic in birds of the U.S.S.R. Trudy Gel'm. lab. 9:59 '59.

(MIRA 13:9)

(Trematoda) (Parasites--Birds)

BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.; PETRUSHEVSKIY, G.K. [deceased]

Trematode larvae in fishes of the Soviet Union. Trudy sov.Ikht.
kom. no.9:198-205 '59. (MIRA 13:5)

1. Zoologicheskii institut Akademii nauk SSSR i Vsesoyuznyy
nauchno-issledovatel'skiy institut ozernogo i rechnogo rybnogo
khozyaystva.

(Parasites--Fishes) (Trematoda) (Larvae--Worms)

BYKHOVSKAYA-PAVLOVSKAYA, Irina Yevgen'yevna; MONCHADSKIY, A.S., otv.
red.; VEL'YATAGO, N.A., red.izd-va; ZENDEL', M.Ye., tekhn.
red.

[Trematoda of birds of the U.S.S.R.; ecological and
geographical survey] Trematody ptits fauny SSSR; ekologo-
geograficheskii obzor. Moskva, Izd-vo Akad.nauk SSSR, 1962.
407 p. (MIRA 15:1)

(Trematoda) (Parasites—Birds)

BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.; PETRUSHEVSKIY, G.K.

Distribution of fluke larvae in fishes of the Soviet Union. Paraz.
sbor. 21:140-202 '63, (MIRA 17:4)

1. Zoologicheskiy institut AN SSSR.

BYIKHOVSKAYA-PAVLOVSKAYA, I.Ye.; KHOTENOVSKIY, I.A.

Morphology of the trematode *Collyriclum faba* (Bremser, 1831).

Paraz. sbor. 22:207-219 '64.

(MIRA 18:2)

1. Zoologicheskii institut AN SSSR.

BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.; KULAKOVA, A.P.

New species of trematodes from the European jacksnipe (*Lymnocyrtus minimus* Brünn.) from the Courland Lagoon. Trudy Zool. inst. 35:187-191 '65. (MIRA 19:1)

1. Zoologicheskii institut AN SSSR.

BYKHOVSKAYA-SHNERMAN, V. M.

Treatment with dibazol of poliomyelitis in paralytic stage and recovery. Zh. nevropat. psikhiat., Moskva 52 no.4:39-41 Apr. 1952. (GLML 22:2)

1. Of the Department of Nervous Diseases (Head -- Prof. G. D. Aronovich), Leningrad Pediatric Medical Institute.

BYKHOVSKIY, A.

Insolvent policy. Sov. profsoiuzy 19 no.22:36-37 D '63.
(MIRA 17:1)

BYKHOVSKIY, A.; SOKOLOVSKIY, I.

"Prevention of silicosis and anthracosis in mining." L.I. Baron.

Reviewed by A.Bykhovskii, I.Sokolovskii. Gig. i san. 21 no.8:59-60

Ag '56.

(MLRA 9:11)

(LUNGS--DUST DISEASES)

ABAKYAN, A. A.; BYKOVSKIY, A. F.

"Sovremennye predstavleniya ob anatomii virusov kak razvitiye idey D. I. Ivanovskogo o ikh korpuskulyarnosti."

report presented at Symp on Virus Diseases, Moscow, 6-9 Oct 64.

Institut epidemiologii i Mikrobiologii im N. F. Gamaley AMN SSSR.

AKINSHINA, G.T.; BYKOVSKIY, A.F.

Submicroscopic structure of *Toxoplasma gondii*. Zool. zhur. 43
no.9:1391-1394 '64. (MIRA 17:11)

1. Laboratoriya toksoplazmoza Otdela prirodnouchagovykh bolezney
i laboratoriya morfologii mikroorganizmov i elektronnoy mikro-
skopii Instituta epidemiologii i mikrobiologii AMN SSSR, Moskva.

6

BYKHOVSKIY, A.

B-9

Category: USSR

Abs Jour: Zh.-Kh, No 1, 1957, 7564

Author : Gertsriken, S. D. and Bykhovskiy, A.

Inst : Kiev University

Title : Surface Diffusion of Mercury in Tin and Effect of Heat Treatment

Orig Pub: Nauk. Zap. Kievs'k. Un-ta, 1955, Vol 14, No 8, 87-90

Abstract: It is shown that the activation energy E for the surface diffusion of Hg in an unannealed alloy of Sn 1 at .% Sb is 12,600 cal/gm-atom; in an alloy annealed for five hours at 200°, E = 20,200-21,800 cal/gm-atom; in an unannealed alloy of Sn 0.5 wt.% Bi, 8,200-8,600 cal/gm-atom; in the same alloy annealed for four hours at 200°, 22,700-27,000 cal/gm-atom. The annealing of pure Sn does not increase E. E for surface diffusion of Hg in an alloy of 99 Sn Zn (wt.%) is 11,700-12,000 cal/gm-atom and practically does not differ from E for pure Sn (Gertsriken, S. D.

Card : 1/2

-23-

Category: USSR

B-9

Abs Jour: Zh--Kh, No 1, 1957, 7564

and Bykhovskiy, A., Tr. fiz. fak-ta KGU, 1952, No 6). The authors are of the opinion that the results obtained prove the "gorofil'most"* of Sb and Bi with respect to Sn and do not substantiate the "gorofobnost" of Zn with respect to Sn.

(*Tr. Note: appears to be a term expressing the tendency of a species of atom to move towards the free surface; "gorofobnost" expresses an opposite tendency)

Card : 2/2

-24-

SOV/137-57-6-10783

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 196 (USSR)

AUTHOR: Bykhovskiy, A.I.

TITLE: A Contribution to the Kinetics of the Martensite Transformation (K voprosu o kinetike martensitnogo prevrashcheniya)

PERIODICAL: Nauch. tr. Ukr. s.-kh. akad. 1956, Vol 8, pp 453-460

ABSTRACT: Estimates are made of T_0 values and the relationship between σ and q is found for a formula previously derived [Kogan, L.I., Neymark, V.Ye., Piletskaya, I.B., and Entin, R.I., Problemy metallovedeniya i fiziki metallov (Problems of the Working and the Physics of Metals), Metallurgizdat, 1949], the equation being $n = K \cdot \exp(-C/T\Delta T^2) \cdot \exp(-u/kT)$ (1), where n is the number of martensite nuclei developing per unit time in a unit volume, K is a constant that is not temperature-dependent, u is the energy of activation when an atom from the crystal lattice of the initial phase transfers to the nucleus lattice, $C = [(32 \sigma^3 \cdot T_0^2 / (kq^2))] (M/\rho)^2$ (σ being the surface tension at the interface between the nucleus and the mother medium, ρ being the density of the nucleus, M the molecular weight, q the heat

Card 1/2

A Contribution to the Kinetics of the Martensite Transformation SOV/137-57-6-10783

of transition, and T_0 the transition point). For the alloy Fe+0.83%C+2.2% Mn, taking $u=1400$ cal/g mole, experimental values of n are used to plot curves for $\log_e n+1400/kT$ versus $1/T \Delta T^2$ at various temperatures in the 200-300°C interval. It is found that $240^\circ < T_0 < 290^\circ$, $8\sqrt{c^3} < q < 12\sqrt{c^3}$. For the alloy Fe+23%Ni+3.4% Mn, T_0 is 50° , and $q: 14.8 \sqrt{c^3}$. The agreement between the experimental data and equation (1) testifies to the existence of a fluctuation mechanism of the nucleation during martensite transformation.

L.V.

Card 2/2

Bykhovskiy, A.I.

USSR/Phase Transformation in Solid Bodies.

E-6

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11741

Author : Bykhovskiy, A.I.

Inst :

Title : Concerning Factors that Influence the Transformation of
White Tin Into Gray Tin.

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 8, 1799-1801

Abstract : Many factors that influence the β -Sn $\rightarrow$ α -Sn transformation (the transformation is more active in purer grades of tin; additions of lead, bismuth, and antimony slow the transformation down sharply and at high concentrations they stop it completely), are explained by the author from considerations concerning the surface activity with respect to tin on the part of the impurities contained in tin specimens.

Bibliography, 12 titles.

Card 1/1

AUTHOR: Bykhovskiy, A. I.

SOV/126-6-3-15/32

TITLE: Certain Features of Transformation of White Tin Into Grey Tin (Nekotoryye osobennosti prevrashcheniya belogo olova v seroye)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 3, pp 487-495 (USSR)

ABSTRACT: In earlier papers (Refs 1 and 2) certain features, previously described in literature, were elucidated relating to the transformation of white (β) tin into grey (α) tin and constants were determined and analysed which describe the linear speed of these transformations. In this paper new data are given relating to the initial, least studied, stage of transformation of β -Sn into α -Sn which were obtained by the method of surface diffusion of mercury using a technique developed by the author. This technique permits investigating the transformations during the initial stage, whilst other methods permit only study at later stages. This is due to the fact that surface diffusion occurs in a thin layer (from which centres of grey tin germinate) and also that the diffusion coefficient increases sharply in the case of presence of

Card 1/3

SOV/126-6-3-15/32

Certain Features of Transformation of White Tin Into Grey Tin

stresses in the lattice. It can be seen from the graph, Fig.1, that in the case of low temperatures a more complicated relation will apply than the relation $h^2 \sim t$; three characteristic ranges can be distinguished, the first one corresponding to steady state diffusion; the second to diffusion of mercury into the amalgam with non-relaxed stresses and the third one to diffusion of mercury into the amalgam with stress relaxation. It was found that at a constant low temperature the $h^2(t)$ curve is fully reproduceable irrespective of the duration of holding of the specimen at that temperature; this indicates that all the centres of the grey tin are formed in a very short time. Lowering of the temperature leads to a greater steepness of the second part of the $h^2(t)$ curve; this is attributed to stress increases in the surface layer of the tin (and the tin amalgam) due to the formation of centres of grey tin. The temperature characteristic of the $h^2(t)$ shows that, with increasing super-cooling, the total number of α -Sn nuclei increase. The effect of the increase in the speed of surface diffusion of mercury with decreasing temperature manifests itself when using

Card 2/3

SOV/126-6-3-15/32

Certain Features of Transformation of White Tin Into Grey Tin

specimens with various surface non-uniformities. The β -Sn to α -Sn transformation shows a certain similarity to martensite transformation. Acknowledgments are made to Professor S. D. Gertsriken for supervising the work described in this paper.

There are 7 figures, 1 table and 11 references, 7 of which are Soviet, 3 German, 1 English.

ASSOCIATION: Ukrainskaya sel'skokhozyaystvennaya akademiya
(Ukrainian Agricultural Academy)

SUBMITTED: December 12, 1956

1. Tin--Transformations
2. Tin--Analysis
3. Tin--Surface properties
4. Tin--Temperature effects

Card 3/3

BYKHOVSKIY, A.I. [Bykhovs'kyi, A.I.]

Effect of compression on the kinetics of first-order phase transformations
[with summary in English]. Ukr.fiz.shur. 3 no.4:488-494 J1-Ag
'58. (MIRA 11:12)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk.
(Phase rule and equilibrium) (Tin)

BYKHOVSKIY, A. I.

Cand Phys-Math Sci - (diss) "Study of the diffusion of mercury in the surface layers of tin amalgam and of tin alloys, and a study of the transformation of white tin to grey by the diffusion method." Khar'kov, 1961. 11 pp; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Khar'kov Order of Labor Red Banner State University imeni A. M. Gor'kiy); 120 copies; price not given; (KL, 5-61 sup, 172)

BYKHOVSKIY, A. I.

PHASE I BOOK EXPLOITATION SOV/2511

Nauchno-tekhnicheskoye obshchestvo mashinostroytel'noy promyshlennosti.
Kiyevskoye oblastnoye pravleniye.

Metallovedeniye i tekhnicheskaya obrabotka (Physical Metallurgy and Heat
Treatment of Metals) Moscow, Mashgit, 1961. 330 p. Errata slip
inserted. 5,000 copies printed.

Sponsoring Agency: Gosudarstvennyy nauchno-tekhnicheskii komitet
Soyuzministry, UkrSSR. Nauchno-tekhnicheskoye obshchestvo
mashinostroytel'noy promyshlennosti. Kiyevskoye oblastnoye
pravleniye.

Editorial Board: M. P. Braun, Doctor of Technical Sciences, I. Ya.
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Technical Sciences, I. S. Kamanin, Engineer, Ye. A. Karlov-
skiy, Candidate of Technical Sciences, V. G. Panyazov, Doctor
of Technical Sciences, and A. V. Chesnokov, Candidate of Tech-
nical Sciences; Ed.: M. S. Soroka; Tech. Ed.: M. S.
Gomestaypol'skaya; Chief Ed., Mashgit (Southern Dept.): V. K.
Serdnyuk, Engineer.

Card 1/10

PURPOSE: This collection of articles is intended for scientific
workers and technical personnel of research institutes, plants,
and schools of higher technical education.

COVERAGE: The collection contains papers presented at a convention
held in Kiyev on problems of physical metallurgy and methods of
the heat treatment of metals applied in the machine industry.
Phase transformations in metals and alloys are discussed, and
results of investigations conducted to ascertain the effect of
heat treatment on the quality of metal are analyzed. The pos-
sibility of obtaining metals with given mechanical properties
is discussed, as are problems of steel brittleness. The col-
lection includes papers dealing with kinetics of transformations,
heat treatment, and properties of cast iron. No personalities
are mentioned. Articles are accompanied by references, mostly
Soviet.

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BYKHOVSKIY, A.I.; LARIKOV, L.N.; OVSIYENKO, D.Ye.

Mechanism of crystal growth in the $\alpha \rightarrow \beta$ -transformation of
p-dichlorobenzene. Kristallografiia 6 no.2:284-286 Mr-Ap '61.

1. Institut metallofiziki AN USSR. i Ukrainskaya akademiya sel'sko-
khozyaystvennykh nauk.

(Phase rule and equilibrium) (Benzene)

(Crystals--Growth)

BYKHOVSKIY, A.I.

Kinetics of the transformation of white tin into gray. Fiz. met.
i metalloved. 12 no.1:64-72 J1 '61. (MIRA 14:8)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk.
(Tin--Metallography) (Metals, Effect of temperature on)

25722
S/020/61/139/003/021/025
B127/B206

5 2610

AUTHOR: Bykhovskiy, A. I.

TITLE: Some peculiarities of the development of centers of gray tin on particles of CdTe, InSb, Si, and Ge

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 3, 1961, 637-640

TEXT: Since N. A. Goryunova (DAN, 75, no. 1, 51, 1950) had shown that the transformation of white tin into gray tin is released by CdTe and InSb crystals, the question has been raised as to how this new phase is forming. As the author found that the method of surface diffusion with Hg was unsuitable, he injected CdTe, InSb, as well as Si and Ge, into the surface of white tin. A thin layer of colophony was applied to the inner surface of a glass tube. The powder of one of the above-mentioned substances was then put into the tube and evenly distributed by shaking. In some cases, a suspension (e.g., of Si) of the substance in a solution of colophony in acetone was put into the tube. The tube was then filled with liquid tin, the tin cylinder was pulled out after cooling, and the adhering particles were washed off. Only then the surface was exposed to Hg diffusion. The

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B127/B206

Some peculiarities of the development...

lift of the amalgam film was measured as a function of time at various temperatures. At low and slightly higher temperatures (about room temperature), this dependence may be expressed by the equation $h^2 \sim Dt$, where h is the lift of the amalgam, t the time of the lift, and D the coefficient of surface diffusion of Hg. Fig. 1 shows $h^2(t)$ at low temperatures for Sn+CdTe. At a temperature reduction, the diffusion coefficient increased in the presence of CdTe, InSb, Si and Ge, but it decreased again at temperatures of -16°C and below (Fig. 2). An increase of the number of centers of α -Sn was observed with increasing undercooling, a certain distribution of these centers taking place according to their size and activity. It may be assumed that a maximum of such "prepared places" is attained by undercooling, and that further undercooling does not increase the number of α -tin centers any more. The homogeneity of the "prepared places" is caused by introducing particles of unsoluble admixtures. Contrary to other opinions, an accelerated effect of Si and Ge was also found. The author thanks Professor S. D. Gertsriken for directing the study. There are 2 figures, 1 table, and 4 Soviet-bloc references.

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Some peculiarities of the development...

25722

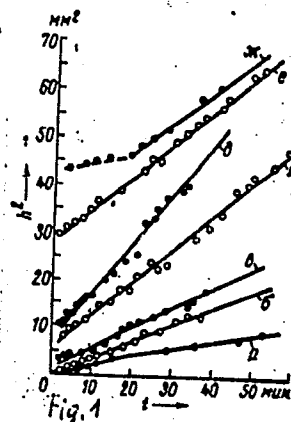
S/020/61/139/003/021/025
B127/B206

ASSOCIATION: Ukrainskaya akademiya sel'skokhozyaystvennykh nauk, Kiyev
(Ukrainian Academy of Agricultural Sciences, Kiyev)

PRESENTED: November 22, 1960, by G. V. Kurdyumov, Academician

SUBMITTED: February 18, 1960

Fig. 1: Dependence $h^2(t)$ at low temperatures for Sn+CdTe samples.
Legend: (a) -8.8°C ; (b) -12.2°C ;
(c) -15.4°C ; (d) -18.7°C ; (e) -22°C ;
(f) -27.2°C ; (g) -28.6°C .



Card 3/4

L-18242-65 EWP(q)/EWT(m)/BDS AFFTC/ASD JD
ACCESSION NR: AP3002114 S/0185/63/008/006/0609/0623

AUTHOR: Bykhovs'kyy, A. I.

TITLE: Transition of white tin into gray as an example of polymorphous transformations (A Review)

SOURCE: Ukrain's'kyy fizychnyy zhurnal, v. 8, no. 6, 1963, 609-623

TOPIC TAGS: phase transformation, alpha tin, beta tin, transformation thermodynamics, transformation kinetics, heat treatment, alpha-beta tin transformation, gray tin, white tin, polymorphic transformation, pre-history effect

ABSTRACT: The paper is a comprehensive review of Soviet and Western literature on the subject of transition of white into gray tin as an example of polymorphous transformation. A total of 89 literature references are quoted. The following aspects of the problems are reviewed: The beta-Sn transformation into alpha-Sn and its characteristics; thermodynamic characteristics of the beta into alpha, and reverse, transformation of tin; effect of some external factors on the transformation process of white into gray tin; the effect of the tin prehistory; effect of impurities and thermal treatment; and latest data on the kinetics of white into

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L 18242-63

ACCESSION NR: AP3002114

gray tin transformation. The approach is descriptive and phenomenological rather than theoretical. No phase diagrams are given. Orig. art. has: 7 formulas, 5 figures and 1 table.

ASSOCIATION: Ukrayins'ka Sil's'kogospodars'ka Akademiya, Kiev
(Ukrainian Agricultural Academy)

SUBMITTED: 22 Nov 62

DATE ACQ: 12 Jul 63

ENCL: 00

SUB CODE: PH

NO REF SOV: 044

OTHER: 45

Card 2/2

S/126/63/015/001/012/029
E193/E383

AUTHOR: Bykhovskiy, A.I.

TITLE: A specific feature of the kinetics of diffusion processes

PERIODICAL: Fizika metallov i metallovedeniye, v. 15, no. 1, 1963, 95 - 99

TEXT: The experiments on which the argument outlined in the present paper is based were conducted on tin strips suspended vertically with the lower end of the strip immersed in mercury. The part of the strip in contact with the mercury was annealed, the annealed part extending to various distances h_0 above the mercury-bath surface, whereas the remaining portion of the specimen was in a plastically deformed condition. Diffusion of mercury in tin from the moment of immersion was followed visually by observing the upward displacement of the interface between the unaffected part of the strip and the layer comprising tin/mercury amalgam. The results of experiments conducted at 18°C are reproduced in Fig. 1, where the square of the distance h between the mercury-bath surface and the amalgam/tin interface is plotted against

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S/126/63/015/001/012/029
E193/E383

A specific feature

time (t , min), curves 1, 2 and 3 relating to specimens with $h_0 = 9.9, 6.35$ and 4.4 mm, respectively; the wavy line on each curve marks $h = h_0$. It will be seen that in each case the rate of spread of the amalgam remained constant for a distance greater than h_0 . This indicated that under certain conditions the rate of spread of the amalgam was not determined by processes taking place at the amalgam/tin interface but depended on the rate at which the mercury atom crossed the mercury/tin interface. It was concluded in such cases that the deviation process followed a linear instead of a parabolic law. This conclusion, confirmed by other experiments, was used to interpret various published experimental data. There are 2 figures. ✓

ASSOCIATION: Ukrainskaya sel'skokhozyaystvennaya akademiya
(Ukrainian Agricultural Academy)

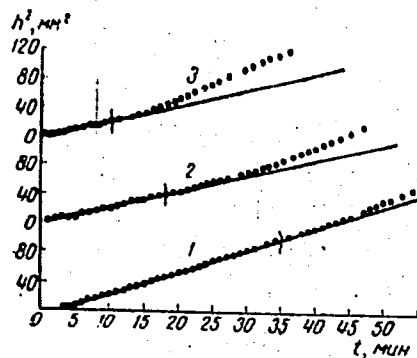
SUBMITTED: May 6, 1962

Card 2/3

A specific feature

S/126/63/015/001/012/029
E193/E383

Fig. 1:



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BYKHOVSKIY, A.I.

More on the applicability of Prigozhin's theorem to biology;
heightened thermogenesis at the early stages of the development
of living organisms. Biofizika 10 no.6:1105-1108 '65.

(MIRA 19:1)

1. Submitted October 12, 1964.

BYCHKOVSKIY, A.L., inzh.

Results of the study of the thermal operation of a heated
ignition belt. Energomashinostroenie 8 no.10:14-18
0 '62.

(Boilers)

(MIRA 15:11)

BYKHOVSKIY, A.N.

The 2620 and 2620A universal horizontal boring machines.
Bul.tekh.--ekon.inform. no.5:37-39 '59. (MIRA 12:8)
(Drilling and boring machinery)

F BYKHOVSKIY, A.V.

A

859. DRY DUST CATCHING IN DRILLING RISING SHOT HOLE.
Bykhovskii, A. V., Sannikov, N. I. and Yudin, S. S. (Gornyi Zh. (Min. J.)).
Aug. 1981, 23-25). An illustrated description is given of a device which
has been accepted for extensive industrial trials. The shank of each
jack hammer bit is enclosed in a dust collecting tube slightly larger
than itself leading to a dust receiver. From this air with dust in
suspension is drawn through a pipe by an ejector. The ejector receives
compressed air and water from pipe lines in the mine gallery and ejects
a suspension of dust and water in air into a small cyclone separator.
(L).

BYKHOVSKIY, A.V., kandidat meditsinskikh nauk; SANNIKOV, N.I.

Methods of dry dust elimination in boring upraises. Bor'ba s sil. 1:
90-96 '53. (MLRa 7:10)

1. Chelyabinskiy meditsinskiy institut (for Bykhovskiy) 2. Karabash-
skoye rudoupravleniye (for Sannikov).

(MINE DUSTS)

BYKHOVSKIY, A.V.

"Industrial hygiene in working with radioactive isotopes" by
S.M.Gorodinskii, G.M.Parkhomenko. Reviewed by A.V.Bykhovskii.
Med.rad. 4 no.6:90-91 Je '59. (MIRA 12:8)

(RADIOISOTOPES--SAFETY MEASURES)

(GORODINSKII, S.M.)

(PARKHOMENKO, G.M.)

DESYATNIKOV, D.T.; CHESNOKOV, N.I.; POPOV, A.A.; NIKOLAYEV, V.D.;
BYKHOVSKIY, A.Y.; SHAPIRO, P.I.; SIPYAGINA, Z.A., red. izd-
va; MINSKER, L.I., tekhn. red.

[Lowering the dust content of mine air] Snizhenie zapylen-
nosti rudnichnoi atmosfery. Moskva, Gosgortekhnizdat, 1962.
175 p. (MIRA 15:11)

(Mine dusts)

ACCESSION NR: AT4017002

S/3057/63/000/000/0137/0143

AUTHOR: By*khovskiy, A. V.; Faustova, D. G.

TITLE: Problems of creating anti-radon shieldings and regular checking of their efficiency

SOURCE: Zashchitny*ye pokry*tiya v atomnoy tekhnike (Shielding in nuclear engineering); sbornik statey. Moscow, Gosatomizdat, 1963, 137-143

TOPIC TAGS: shielding, atomic reactor, atomic reactor shielding, radon shielding, mine shielding

ABSTRACT: The problem of shieldings is important not only in atomic reactors, but also in mines. The allowable concentration of radon in the air should not exceed $3 \cdot 10^{-11}$ curies per liter, and for mines $1 \cdot 10^{-10}$ curies per liter. The problem of radon purification is therefore one of the most important hygienic problems in mining. Two methods can be used: either the elimination of the radon entry into the mine or the removal of radon by an exhaust using fresh air. The latter method has been most often used in mines. The entry of radon can be limited by shielding materials at the mine face. Cement mortar, concrete, grout, tars, latex, and bituminous latex emulsions are used for coating these materials. Shafts not being used must be isolated. Usually

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ACCESSION NR: AT4017002

permanent shafts are of concrete and temporary ones of polymers. The polymers prevent 98-99% of the radon from entering the mine shaft. In addition, these shafts can be placed over concrete surfaces for better protection. A "Crystal" scintillograph is used for measuring the radon concentration.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 20Feb64

ENCL: 00

SUB CODE: NP

NO REF SOV: 004

OTHER: 005

Card 2/2

ACCESSION NR AM4021940

BOOK EXPLOITATION

s/

By*khovskiy, Aleksandr Vladimirovich

Sanitary problems in uranium mines (Gigiyenicheskiye voprosy* pri podzemnoy raz-
rabotke uranovy*kh rud), Moscow, Medgiz, 1963, 331 p. Errata slip inserted.
1,000 copies printed.

TOPIC TAGS: uranium, uranium ore mining, dosimetry, radon, radioactive contamina-
tion, irradiation

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SUB CODE: AM, NS

SUBMITTED: 17Mar63

NR REF SOV: 170

OTHER: 232

DATE ACQ: 12Mar64

Card 2/2

BYKHOVSKIY, A.V.; SEDOV, V.V.; MULIN, I.I.

Experimental method of local irradiation of the lungs.
Med. rad. 8 no.7:47-51 J1 '63. (MIRA 17:1)